Ex. How many possible outfits you can make with 2 pairs of jeans and 5 shirts? **12.1**

1. How may different 5-digit zip codes are there if any of the digits 0-9 can be used?

2. How many different ways can 4 friends stand in a cafeteria line?

3. Supose there are 12 seniors on the girls track team. How many different ways can three captains be picked?

4. Eight runners are competing in the 100-meter dash. In how many ways can the runners finishing if there are no ties?

Ex. You toss two six-sided dice. What is the probability the sum will be 4? **12.3**

5. In a standard deck of 52 playing cards, what is the probability of drawing an ace?

6. What is the probability of rolling a seven on a pair of six-sided dice?

7. In a standard deck of 52 playing cards, what is the probability of drawing a queen or a king?

8. What is the probability of rolling six-sided die and rolling a number greater than 4?

12.4

Ex. A and B are two events and P(A) = 3/4 and P(B) = 2/5

a. Find P(A ∩ B)

b. Find P(A U B)

c. Find P(B')

9. P(A) = 0.25, P(B) = 0.2

a. Find P(A ∩ B)

b. Find P(A U B)

10. P(A) = 2/5, P(B) = 1/10

a. Find P(A ∩ B)

b. Find P(A U B)

11. A card is randomly selected from a standard deck of 52 cards. What is the probability that it is a diamond or a 10?

12. When two 6-sided dice are tossed, there are 36 possible outcomes. Find the probability that the sum is less than or equal to 4.

13. P(A) = 99%, Find P(A').

12.5

Ex. Nine slips of paper numbered 1-9 are placed in a hat. You randomly draw two slips.

What is the probability that the first number is odd and the second number is even?

14. Find the probability of randomly drawing the given marbles from a bag of of 4 red, 6 green, and 2 blue marbles (with and without replacement)

a. a red, then a green
with repl:
w/o repl:

b. a blue, then a red
with repl:
w/o repl:

c. a red, then a red
with repl:
w/o repl:

15. You randomly select 2 cards from a standard 52-card deck. What is the probability that the first card is a king or queen and the secondar card is a king, queen, or jack if you:

a. replace the first card before selecting the second?

b. do not replace the first card before selecting the second?